

However, Applicant's representative presented several possible fallacies or inconsistencies with the rejection regarding Tateishi et al., which are reiterated below:

- a. Initially in each of claims 1 and 14, the plurality of modules are required to be detachably attached to the substrate transfer section. As can be seen in Fig. 4 of Tateishi et al., each of these chambers appear fixedly interconnected to one another, thus there does not appear to be any detachable aspect whatsoever in Tateishi's apparatus. We also note that Takagi, cited again from the previous Office Action to combine with Tateishi et al., does not appear to cure or solve this deficiency.

In response, the Examiner appeared somewhat receptive to this argument, but indicated that he would have to more thoroughly review the detachable aspect in Tateishi et al.

- b. The Examiner calls inlet chamber 52 a module, thus implying that two limitations (i.e., (1) the substrate transfer section and (2) a plurality of modules) are anticipated by a single element in Fig. 4 of Tateishi et al. This is improper, as the Examiner must explicitly point out where exactly in Fig. 4 there is a substrate transfer section, and where there is illustrated the transfer modules (two separate claimed structural elements).

To this point, the Examiner appeared receptive to the claimed distinction, and indicated that he would clarify this alleged teaching in Tateishi et al., if necessary in a future response.

- c. In each of claims 1 and 14, there is a requirement of a first substrate transfer device provided in the substrate transfer section (this would be analogous to robot 20 in Fig. 1b of the present application). However, referring to Fig. 4 of Tateishi et al., the Examiner cites a first transfer device 62, which is an elevator. However, we note that elevator 62 is not within what is alleged to be the substrate transfer section, that being inlet chamber 52.

The Examiner appeared most receptive to this distinction, indicating that he would have to further investigate the relevance of the elevators in Tateishi as compared to the robots in transfer section 100 and intermediate chamber 54.

- d. As in Tepman et al., the various chambers in Fig. 4 of Tateishi are not vertically arranged, and there does not appear to be any suggestion or motivation to arrange these in a vertical fashion with Takagi, since Tateishi utilizes a horizontally configured arrangement together with elevators to move substrates therethrough.

The Examiner appeared unreceptive to this argument, alleging that there was motivation to combine these references. However, he indicated that he could clarify why the combination would be successful, if necessary, in a future response.

- e. It appears that the Examiner is referring to the entirety of Fig. 4 as a substrate processing chamber which has a hermetic structure. This is improper, since the substrate processing chamber in each of claims 1 and 14, must be a limitation (i.e., must be a subset of the substrate processing apparatus claimed). Further, it is unclear from the Examiner's rejection what is being referred to as the alleged substrate processing chamber in Tateishi et al.

Regarding this final point, the Examiner indicated that he would attempt to clarify, with more particularity, who each of the claimed features in claims 1 and/or 14 is taught or suggested by Tateishi et al.

Thereafter, Applicant's representative discussed possible claim amendments to incorporate certain advantages of the present application, if the above deficiencies do not persuade the Examiner to withdraw the rejections. One example presented would be to focus on the ability to separate the holding functions from the transferring functions so as to improve efficiency, and/or to focus the claims on improving efficiency by providing transfer of substrates between modules independent from transfer of substrates within a respective module 300. The Examiner appeared receptive to this type of terminology, and would consider it in a follow on Amendment.

35 U.S.C. §103(a) Rejections

1. Claims 1-4, 7-16 and 20-25.

Claims 1-4, 7-16 and 20-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. (U.S. Patent No. 4,405,435) in view of Takagi (JP 2-152251). This rejection is respectfully traversed, and is further inapplicable to new claims 27-32 as set forth below.

Applicants respectfully submit that Tateishi et al. fail to teach or suggest each of the features outlined at least in points (a) to (c) made at the interview of August 16, 2000 and as reiterated above in the Summary of the Examiner Interview. Accordingly, Tateishi et al. do not disclose an apparatus (a) wherein a plurality of modules are detachably attached to a substrate transfer section having a substrate transfer device; (b) wherein each of the modules includes a substrate processing chamber and another substrate transfer device; and (c) a first substrate transfer device provided in the substrate transfer section, as claimed in claims 1 and 14. As noted in the Interview, these are deficiencies which are not made up by the application of Takagi, nor any of the other cited references.

*Amended from Above*

Notwithstanding the above, Applicant respectfully submits that the Examiner has not made out the requisite motivation to combine Takagi with Tateishi for the purpose of teaching the feature of vertically arranging the modules as is claimed, please see point (d) above. Nor has the Examiner provided the requisite specificity to explain how Tateishi et al. teach or suggest both the claimed substrate processing apparatus, with the claimed substrate processing chamber therein (see point (e) above). It appears that the Examiner is referring to the entirety of Fig. 4 in Tateishi as a substrate processing chamber which has a hermetic structure. This is improper,

since the substrate processing chamber in each of claims 1 and 14 must be a limitation (i.e., must be a subset of the substrate processing apparatus claimed).

New claims 27-32 have been added in an effort to provide further protection for Applicant's invention. These claims further define that the substrate processing apparatus is configured to transfer and process substrates from at least one at a time to a plurality at a time. Applicant submits that these claims are allowable at least for the reasons set forth above regarding claims 1 and 14, and/or for the limitations claimed therein.

2. Claims 5, 6, 17 and 18.

Claims 5, 6, 17 and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. and Takagi in view of Lee (U.S. Patent No. 5,616,718). This rejection is respectfully traversed.

Applicant submits that Lee fails to remedy the deficiencies of Tateishi et al. and Takagi with respect to independent claims 1 and 14. As such, claims 5, 6, 17 and 18 are allowable by virtue of their dependency, as well as on their own merits. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

3. Claim 19.

Claim 19 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Tateishi et al. and Takagi in view of Yamazaki. This rejection is respectfully traversed.

Applicant submits that Yamazaki fails to remedy the deficiencies of Tateishi et al. and

Appl. No.: 08/905,971

Takagi with respect to independent claims 1 and 14. As such, claim 19 is allowable by virtue of their dependency, as well as on their own merits. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**NOTE:** Claim 26 has not been rejected. Applicant requests the Examiner to clarify his position of this claim in a subsequent communication, or to indicate its allowability in conjunction with the remaining claims in the application.

### **CONCLUSION**

In view of the above amendments and remarks, Applicants submit that the application is in condition for allowance. A favorable action regarding each of claims 1-32 in the form of a Notice of Allowance is earnestly solicited.

In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Matthew J. Lattig (Reg. No. 45,274) at (703) 205-8000 in the Washington, D.C. area, to discuss this application.

Pursuant to the provisions of 37 C.F.R. 1.17 and 1.136(a), Applicants hereby petition for an extension of three (3) months to September 27, 2000 in which to file a response to the outstanding Office Action. The required fee of \$870.00 is attached hereto.

Appl. No.: 08/905,971

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. 1.16 or under 37 C.F.R. 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By

Michael K. Mutter  
Reg. No. 29,680  
P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

MKM/MJL:ll